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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,781	10/29/2001	Andrew R. Ferlitsch	SLA 1031	5371

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EXAMINER
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MURPHY, DILLON J

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/002,781	<b>Applicant(s)</b> FERLITSCH, ANDREW R.	
	<b>Examiner</b> Dillon J. Murphy	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**DOUGLAS Q. TRAN**  
**PRIMARY EXAMINER**

*Tranlong*

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

- This action is responsive to the amendment filed on September 19, 2005.
- Claims 1-3 and 5-18 are pending. Claim 4 is cancelled.
- Amendments to the drawings are acknowledged and accepted.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 contains the trademark/trade name Microsoft Windows. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the operating system and print processor and, accordingly, the identification/description is indefinite. See MPEP 2173.05(u).

***Claim Rejections - 35 USC § 101***

The 35 U.S.C. 101 rejection of claim 18 has been withdrawn.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 10, 11, 13, 17, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeda (US 6,229,622).

Regarding claim 1, Takeda teaches a method for interleaving print jobs comprising:

Receiving a plurality of original print jobs at a non-printer computing device (Takeda, col 4, ln 66-67, and col 5, ln 1-8, wherein the spool area in the hard drive receives a plurality of print jobs. Also see fig 2, wherein spool area receives print jobs. Jobs are received by a non-printer computing device. See col 10, ln 63-67, and col 11, ln 1-3, wherein interleaving functions according to Takeda may be performed in part or entirely by a computer, i.e. a non-printer computing device);

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Breaking down said original print jobs into smaller sub-jobs with said non-printer computing device (Takeda, col 5, ln 11-52, print jobs are broken into smaller sub-jobs of size  $P_x$ , where  $P_x$  is the number of pages per sub-job);

Interleaving said sub-jobs in an alternating sequence with said non-printer computing device, and sending said sub-jobs to a printer in said sequence (Takeda, col 5, ln 11-52, printing operation prints all pages " $P_x$ " of sub-job " $X$ ," and then moves to next sub-job. When all sub-jobs have been processed, operation loops back to first print job's sub-jobs, thereby printing in an alternating order).

Regarding claim 2, which depends from claim 1, Takeda teaches a method for interleaving print jobs wherein said non-printer computing device is a client computing device (Takeda, col 10, ln 63-67, and col 11, ln 1-3, wherein interleaving functions may be performed in part or entirely by a client computing device).

Regarding claim 10, which depends from claim 1, Takeda further teaches a method wherein said breaking down results in sub-jobs of approximately equal size (Takeda, col 4, ln 40-44, number of pages,  $P_x$ , of sub-jobs can be controlled independently for each user or set to be equal for all sub-jobs, col 4, ln 54-55).

Regarding claim 11, which depends from claim 1, Takeda further teaches a method wherein said breaking down results in sub-jobs of approximately equal printing time (Takeda, col 4, ln 44-45, size of sub-jobs may alternatively be set to length of time rather than amount of data).

Regarding claim 13, Takeda teaches a method for interleaving print jobs, said method comprising:

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Receiving a plurality of original print jobs at a non-printer, print system component before said jobs arrive at a printer (Takeda, col 4, ln 66-67, and col 5, ln 1-8, wherein the spool area in the hard drive receives a plurality of print jobs. Also see fig 2, wherein spool area receives print jobs. Jobs are received by a non-printer computing device. See col 10, ln 63-67, and col 11, ln 1-3, wherein interleaving functions according to Takeda may be performed in part or entirely by a computer, i.e. a non-printer computing device);

Breaking down said original print jobs into smaller sub-jobs with said print system component (Takeda, col 5, ln 11-52, print jobs are broken into smaller sub-jobs of size  $P_x$ , where  $P_x$  is the number of pages per sub-job);

Interleaving said sub-jobs in an alternating sequence with said print system component, and sending said sub-jobs to a printer in said sequence (Takeda, col 5, ln 11-52, printing operation prints all pages " $P_x$ " of sub-job " $X$ ," and then moves to next sub-job. When all sub-jobs have been processed, operation loops back to first print job's sub-jobs, thereby printing in an alternating order).

Regarding claim 17, Takeda further teaches a computer readable medium comprising computer executable instructions (Takeda, col 2, ln 23-30, printing operation is performed by program in RAM, while hard drive stores a plurality of applications to be run by CPU) for performing functions within a non-printer, print system component (Takeda, col 10, ln 63-67, and col 11, ln 1-3, steps are performed by executing program codes read by a computer, separate from a printing device), said instructions comprising the acts of:

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Receiving a plurality of original print jobs at a print system component before said print jobs arrive at a printer (Takeda, col 4, ln 66-67, and col 5, ln 1-8, wherein the spool area in the hard drive receives a plurality of print jobs. Also see fig 2, wherein spool area receives print jobs. Jobs are received by a non-printer computing device, i.e. jobs are received before they arrive at a printer. See col 10, ln 63-67, and col 11, ln 1-3, wherein interleaving functions according to Takeda may be performed in part or entirely by a computer, i.e. a non-printer computing device);

Breaking down said original print jobs into smaller sub-jobs (Takeda, col 5, ln 11-52, print jobs are broken into smaller sub-jobs of size  $P_x$ , where  $P_x$  is the number of pages per sub-job);

Interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence (Takeda, col 5, ln 11-52, printing operation prints all pages " $P_x$ " of sub-job "X," and then moves to next sub-job. When all sub-jobs have been processed, operation loops back to first print job's sub-jobs, thereby printing in an alternating order).

Regarding claim 18, claim 18 recites identical features as claim 17 except claim 18 is a method claim, i.e. a computer data signal embodied in an electronic transmission performing method steps. Thus, arguments similar to that presented above for claim 17 are equally applicable to claim 18. Applicant's attention is further directed to col 2, ln 16-17 of Takeda, wherein signals are transmitted within a LAN transmission line.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (US 6,229,622) and Keeney et al. (US 6,748,471), hereafter referred to as Takeda and Keeney.

Regarding claim 3, which depends from claim 1, Takeda teaches a method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, breaking down, and interleaving performed at a non-printer computing device, as explained above in the rejection of claim 1. Takeda does not disclose expressly a method for interleaving print jobs wherein said non-printer computing device is a network print server. Keeney, however, discloses a spooling server that may receive a plurality of print jobs (Keeney, col 6, ln 42-44, jobs are received by spooling server, also see fig 9, wherein a plurality of jobs are in print job storage #52), performing as a network server.

Takeda and Keeney are combinable because they are from a similar field of endeavor of print processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of receiving print jobs at a print server of Keeney with the method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in



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an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, breaking down, and interleaving performed at a non-printer computing device. The motivation for doing so would have been to provide a repository that is accessible, e.g., via a global communication network such as the Internet, to authorized users at any time of day (Keeney, col 6, ln 27-30). The suggestion for doing so was given by Takeda in col 10, ln 42-45, wherein the method of interleaving of Takeda may be applied to a system constituted by a plurality of devices (e.g., a host computer, interface, reader, printer, etc.). Therefore, it would have been obvious to combine Keeney with Takeda to obtain the invention as specified in claim 3.

Regarding claim 16, the combination of Takeda and Keeney teaches a system for interleaving print jobs before said print jobs arrive at a printer, said system comprising:

A receiver for receiving a plurality of original print jobs, before said print jobs arrive at a printer (Takeda, col 4, ln 66-67, and col 5, ln 1-8, wherein the spool area in the hard drive receives a plurality of print jobs. Also see fig 2, wherein spool area receives print jobs. Jobs are received by a non-printer computing device. See col 10, ln 63-67, and col 11, ln 1-3, wherein interleaving functions according to Takeda may be performed in part or entirely by a computer, i.e. a non-printer computing device. Additionally, see Keeney, fig 9, for Print Job Receiver #58 for receiving print jobs);

A partitioner for breaking down said original print jobs into smaller sub-jobs, an interleaver for interleaving said sub-jobs in an alternating sequence (Takeda, H/D (Hard drive) #202 comprises spooler area which comprises methods for breaking down and

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interleaving print jobs. See col 5, ln 11-52, print jobs are broken into smaller sub-jobs of size Px, where Px is the number of pages per sub-job. The printing operation prints all pages "Px" of sub-job "X," and then moves to next sub-job. When all sub-jobs have been processed, operation loops back to first print job's sub-jobs, thereby printing in an alternating order), and a sender for sending said sub-jobs to a printer (Keeney, fig 9, transmitter #57 sends requested print job to printer polling device #100, and on to the requesting printer).

Claims 5, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (US 6,229,622) and Hansen (US 6,509,974), hereafter referred to as Takeda and Hansen.

Regarding claim 5, which depends from claim 1, Takeda teaches a method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, breaking down, and interleaving performed at a non-printer computing device, as explained above in the rejection of claim 1. Takeda does not disclose expressly a method for interleaving print jobs wherein said breaking down is performed by a software print system component in an operating system print server. Hansen, however, teaches a method for spooling and queuing jobs and job content, directing jobs to the proper output device, and providing load-balancing among the various production output devices (Hansen, col 7, ln 32-42), wherein the methods are performed by a software print system component in an

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operating system print server (Hansen, col 7, ln 25-28, processes performed by an operating system in a print server).

Takeda and Hansen are combinable because they are from a similar field of endeavor of print processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of Hansen wherein said breaking down is performed by the software print system in an operating system printer server with the method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, breaking down, and interleaving performed at a non-printer computing device. The motivation for doing so would have been to offer a user interface ability through software to configure and manage print server operations, as well as providing a print server engine that performs the automated processes of the print server (Hansen, col 7, ln 28-32). Additionally, the suggestion for doing so was given by Takeda in col 10, ln 42-45, wherein the method of interleaving of Takeda may be applied to a system constituted by a plurality of devices (e.g., a host computer, interface, reader, printer, etc.). Therefore, it would have been obvious to combine Hansen with Takeda to obtain the invention as specified in claim 5.

Regarding claim 6, which depends from claim 5, the combination of Takeda and Hansen teaches a method for interleaving print jobs wherein said operating system is Microsoft Windows and said print system component is a Microsoft Windows print processor (Hansen, col 7, ln 25-28, server operating system is a Windows NT operating

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system, and accordingly print server engine (i.e. print processor) would be a Microsoft print processor).

Regarding claim 9, which depends from claim 5, the combination of Takeda and Hansen teaches a method for interleaving print jobs wherein said print system component is a network print driver (Hansen, col 7, ln 25-30, print system component comprises a software print server application, wherein application configures and manages print server operation (i.e. job setting, distribution, printing in general), therefore it would have been obvious that the print server application was a network print driver).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (US 6,229,622), Hansen (US 6,509,974), and Utsunomiya et al. (US 5,822,500), hereafter referred to as Takeda, Hansen, and Utsunomiya.

Regarding claim 7, which depends from claim 5, the combination of Takeda and Hansen teach a method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, and interleaving are performed at a non-printer computing device and wherein the breaking down is performed by a software print system component in an operating system print server, as explained above in the rejection of claim 5. The combination of Takeda and Hansen does not disclose expressly a method for interleaving print jobs wherein said print system component is independent of an

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operating system print driver. Utsunomiya, however, teaches a method for interleaving print jobs wherein said print system component is independent of an operating system print driver (Utsunomiya, col 5, ln 58-67 and col 6, ln 1-11, breaking down of print jobs is performed by CPU, wherein CPU operates independently of an operating system print driver, i.e. without a driver).

Takeda, Hansen, and Utsunomiya are combinable because they are from a similar filed of endeavor of print processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of Utsunomiya comprising a print system component that is independent of an operating system print driver with the combination of Takeda and Hansen comprising a method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, and interleaving are performed at a non-printer computing device and wherein the breaking down is performed by a software print system component in an operating system print server. The suggestion for doing so would have been to provide a printer apparatus and method of controlling the same, in which a later printing job can be executed before an earlier print job is finished, thereby making it possible to improve the efficiency of the overall printing system (Takeda, col 1, ln 32-36), as well as providing centralized control in the form of a server to combine an image processing apparatus which can connected to a plurality of data generating sources (Utsunomiya, col 1, ln 41-43). Therefore, it

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would have been obvious to combine Utsunomiya with the aforementioned combination of Takeda and Hansen to obtain the invention as specified in claim 7.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (US 6,229,622), Hansen (US 6,509,974), and Keeney et al. (US 6,748,471), hereafter referred to as Takeda, Hansen, and Keeney.

Regarding claim 8, which depends from claim 5, the combination of Takeda and Hansen teach a method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, and interleaving are performed at a non-printer computing device and wherein the breaking down is performed by a software print system component in an operating system print server, as explained above in the rejection of claim 5. The combination of Takeda and Hansen does not disclose expressly a method for interleaving print jobs wherein said print system component is a network print spooler that is independent of a printer. Keeney, however, teaches a method wherein said print system component is a network print spooler that is independent of a printer (Keeney, col 6, ln 42-44, jobs are received by spooling server, also see fig 9, wherein a plurality of jobs are in print job storage #52. After jobs are received by spooling server of Keeney, breaking down by a software print system component in an operating system print server continues as taught by Takeda and Hansen).

Takeda, Hansen, and Kenney are combinable because they are from a similar field of endeavor of print processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of Kenney comprising using a network print spooler that is independent of a printer with the combination of Takeda and Hansen comprising a method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, and interleaving are performed at a non-printer computing device and wherein the breaking down is performed by a software print system component in an operating system print server. The motivation for doing so would have been to provide a repository that is accessible, e.g., via a global communication network such as the Internet, to authorized users at any time of day (Keeney, col 6, ln 27-30). Therefore, it would have been obvious to combine Keeney with the aforementioned combination of Takeda and Hansen to obtain the invention as specified in claim 8.

Claim 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda (US 6,229,622) and Rabjohns et al. (US 5,697,040), hereafter referred to as Takeda and Rabjohns.

Regarding claim 12, which depends from claim 1, Takeda teaches a method for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending

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said sub-jobs to a printer in said sequence, wherein the receiving, breaking down, and interleaving performed at a non-printer computing device, as explained above in the rejection of claim 1. Takeda does not disclose expressly a method wherein said alternating sequence places sub-jobs originating from smaller original print jobs toward the front of the print order. Rabjohns, however, teaches a method for interleaving print jobs wherein said alternating sequence places sub-jobs originating from smaller original print jobs toward the front of the print order (Rabjohns, col 6, ln 12-18, smaller jobs are interleaved into larger jobs, moving the smaller jobs towards the front of the print order).

Takeda and Rabjohns are combinable because they are from the same field of endeavor of print interleaving. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of inserting smaller print jobs towards the front of the print order of Rabjohns with the method of Takeda for interleaving print jobs comprising receiving print jobs, breaking down said jobs into smaller sub-jobs, interleaving said sub-jobs in an alternating sequence, and sending said sub-jobs to a printer in said sequence, wherein the receiving, breaking down, and interleaving performed at a non-printer computing device. The suggestion for doing so would have been to provide a printer apparatus and method of controlling the same, in which a later printing job can be executed before an earlier print job is finished, thereby making it possible to improve the efficiency of the overall printing system (Takeda, col 1, ln 32-36), and to blend images of a second job with the images of a first job during the first job processing (Rabjohns, col 2, ln 8-11), especially when said second job is smaller in length than said first job. Additionally, the suggestion for combining multiple.



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components was given by Takeda in col 10, ln 42-45, wherein the method of interleaving of Takeda may be applied to a system constituted by a plurality of devices (e.g., a host computer, interface, reader, printer, etc.). Therefore, it would have been obvious to combine Rabjohns with Takeda to obtain the invention as specified in claim 12.

Regarding claim 14, the combination of Takeda and Rabjohns further teaches a method for reducing delay of smaller print jobs in a print queue, said method comprising: receiving a plurality of original print jobs at a print system component before said print jobs arrive at a printer (Takeda, col 3, ln 17-20, printer apparatus receives jobs from network via LAN, also col 5, ln 11-15, print jobs stored in memory, with each job corresponding to an indices "X," indicating a plurality of jobs. As is taught by Takeda, part of or all of interleaving functions may be performed by a separate computer, i.e. before a printer, or in discrete network components, wherein the printer is the last step), said plurality of original print jobs comprising at least one larger print job and at least one smaller print job (Rabjohns, col 6, ln 12-18, smaller jobs are interleaved into larger jobs, moving the smaller jobs towards the front of the print order); breaking down said larger original print job into smaller sub-jobs (Takeda, col 5, ln 11-52, print jobs are broken into smaller sub-jobs of size  $P_x$ , where  $P_x$  is the number of pages per sub-job); interleaving said sub-jobs with said smaller original print job in an alternating sequence, and sending said sub-jobs and said smaller original print job to a printer in said sequence (Takeda, col 5, ln 11-52, printing operation sends all pages " $P_x$ " of sub-job "X" to a printer, and then moves to next sub-job. When all sub-jobs have been

processed, operation loops back to first print job's sub-jobs, thereby printing in an alternating order).

Regarding claim 15, which depends from claim 14, the combination of Takeda and Rabjohns further teaches a method further comprising breaking down said smaller original print job into smaller sub-jobs and wherein said interleaving comprises interleaving said smaller sub-jobs from said larger print job with said smaller sub-jobs from said smaller print job (Takeda, col 5, ln 11-52, print jobs are broken into smaller sub-jobs of size  $P_x$ , where  $P_x$  is the number of pages per sub-job. Also see Rabjohns, col 7, ln 7-19, both small and large jobs are broken into smaller sub-jobs and interleaved to improve printer efficiency).

### ***Response to Arguments***

Regarding the 35 U.S.C. 101 rejection of claim 18, the rejection has been withdrawn in view of applicant's arguments following the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, from October 26, 2005. Claim 18 is statutory under 35 U.S.C. 101 because a computer data signal is man-made, is considered functionally descriptive material, and is embodied in an "electronic transmission" that facilitates the functionality of the functionally descriptive material.

Applicant's arguments with respect to claims 1-3 and 5-17 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon J. Murphy whose telephone number is (571) 272-5945. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dillon Murphy

Dillon Murphy

DOUGLAS Q. TRAN  
PRIMARY EXAMINER

Tranlong